



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 26795WO-1 AA	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/CH2002/000583	International filing date (day/month/year) 28 October 2002 (28.10.2002)	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC C04B 28/02		
Applicant FNR FORSCHUNGSGENOSSENSCHAFT NACHWACHS etal..		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
 - ☒ Box No. I Basis of the report
 - ☐ Box No. II Priority
 - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☒ Box No. IV Lack of unity of invention
 - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Box No. VI Certain documents cited
 - ☐ Box No. VII Certain defects in the international application
 - ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 12 May 2004 (12.05.2004)	Date of completion of this report 08 February 2005 (08.02.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CH2002/000583

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☒ the description:
- pages _____ 1-16 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____, as originally filed/furnished
- pages* _____, as amended (together with any statement) under Article 19
- pages* _____ 1-31 _____ received by this Authority on _____ 25 August 2004 (25.08.2004)
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages _____ 1/3-3/3 _____, as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/CH 02/00583

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

The set of claims submitted with the fax of 25 August 2004 meets the requirements of PCT Article 34(2)(b) and therefore forms the basis of the present report.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-31	YES
	Claims		NO
Inventive step (IS)	Claims	1-31	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-31	YES
	Claims		NO

2. Citations and explanations

1. This report makes reference to the following document:

D8: WO 02/12145 A (Trierweiler, Matthias)
14 February 2002

2. D8, which is considered to represent the prior art closest to the subject matter of claim 1, discloses (the references in parentheses are to this document):

A process for producing heat- and sound-insulating concrete or mortar using a plant-based aggregate, wherein the shredded vegetable raw material is mixed without a separate pre-mineralization step with Portland cement and a mineralizer (page 6, lines 1-21), wherein these constituents are mixed in the ratio 180-400 kg cement: 4-14 kg mineralizer per m³ vegetable matter with a specific weight of 80-160 kg/m³ (page 3, lines 7-15, and page 5, lines 2-7) and the mineralizer should be a finely ground powdered mineral, preferably calcium carbonate (page 4, lines 25-28).

The subject matter of claim 1 differs from D8 in that a mixture of calcium carbonate and magnesium carbonate (the latter constituting a maximum of 40% of the mixture by weight) is used as the mineralizer. The subject matter of independent claim 1 and of claims 17 and 20 is therefore novel.

The solution proposed in claims 1, 17 and 20 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

In his letter of 1 December 2004 the applicant argues credibly that the selection of magnesium carbonate to mineralize the plant-based aggregate is associated in a surprising manner with an improvement in the adhesive properties of the binder matrix, while the adverse effect on mechanical properties produced by magnesium carbonate can be neutralized by the admixture of calcium carbonate. Both adequate mechanical strength and adequate adhesiveness can be achieved by limiting the content of magnesium carbonate in the mineralizer mixture to <40% (by weight). This solution cannot be derived from either D8 or other prior art documents.

4. Claims 2-16, 18 and 19 and 21-31 are dependent on claims 1, 17 and 20, respectively, and therefore likewise meet the PCT requirements for novelty and independent step.

Certain observations on the international application

The application does not meet the requirements of PCT Article 6 because claims 4, 12, 17 and 19 are unclear.

- Claim 4 is unclear because the back-reference made is not meaningful.
- Claim 12 is unclear because the proportion of plant base added yields a total amount of >100%. The letter of 25 August 2004 indicates a typing error in the description (page 13, lines 29-33).
- Claim 17 defines the mixture of CaCO_3 and MgCO_3 as "M3", contrary to the definition given in the preceding claims.
- Claim 17 discloses a process for producing a construction material without specifying the step in which the plant-based aggregate is added. Further, it is unclear how the mineralizer mixture can be produced only after the cement and the mineralizer mixture have been mixed.
- Claim 19 discloses the preparation of a mixture "{PB + M1 + M2}". However, M2 is a constituent of M1. Preparation "in a single operation" is likewise unclear since a separate mixing step is disclosed in the form of the preliminary mixing of cement and mineralizer.

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